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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
077909,379	07/06/92	SCHMITT-WILLICH	H SCH-1199

22M1

MILLEN, WHITE AND ZELAND  
ARLINGTON COURTHOUSE PLAZA 1, STE. 1201  
2200 CLARENDON BLVD.  
ARLINGTON, VA 22201

22M1 EXAMINER

ART UNIT PAPER NUMBER  
2203 8

DATE MAILED: 04/29/93

This is a communication from the examiner in charge of your application  
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☒ Responsive to communication filed on 4/2/93 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 months(s) days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- ☒ Notice of References Cited by Examiner, PTO-892.
- ☒ Notice re Patent Drawing, PTO-948.
- ☐ Notice of Art Cited by Applicant, PTO-1449.
- ☐ Notice of Informal Patent Application, Form PTO-152
- ☐ Information on How to Effect Drawing Changes, PTO-1474.
- ☐

Part II SUMMARY OF ACTION

1. ☒ Claims 1-28 are pending in the application.

Of the above, claims 11-16 are withdrawn from consideration.

2. ☐ Claims have been cancelled.

3. ☐ Claims are allowed.

4. ☒ Claims 1-10 & 17-28 are rejected.

5. ☐ Claims are objected to.

6. ☐ Claims are subject to restriction or election requirement.

7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8. ☐ Formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on Under 37 C.F.R. 1.84 these drawings are: ☐ acceptable; ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).

10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).

11. ☐ The proposed drawing correction, filed has been ☐ approved; ☐ disapproved (see explanation).

12. ☐ Acknowledgement is made of the claim for priority under U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. filed on

13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14. ☐ Other

Applicants arguments filed on April 2, 1993, overcome the 35 USC 103 rejections made in the previous office action, paper no. 6.

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 1-3, 6-8, 10, 17-18, 22, 27-28 are rejected under 35 U.S.C. 103 as being unpatentable over Weber et al.

Weber et al. disclose a novel magnetic resonance imaging agents that utilize complexes of paramagnetic ions with alkoxyalkylamide derivatives of diethylenetriaminepentaacetic acid or ethylenediaminetetraacetic acid. In column 2, lines 33-56, Weber et al. teach the use of gadolinium and other paramagnetic divalent and trivalent ions in a soluble, non-toxic form to facilitate their rapid clearance from the body. Applicant is directed to the SUMMARY OF THE INVENTION, in columns 3 to 4, wherein the novel complexing agents are disclosed.

The compound disclosed by Weber et al. is very similar to the compounds claimed in the present application. The applicants claims allow for  $Z_1$  and  $Z_2$  to be a Hydrogen and/or an alkyl chain (e.g., methyl group). Weber et al. do not specifically teach substituents from the applicants claimed  $Z_1$  and  $Z_2$ , but to a person of ordinary

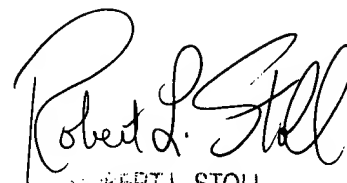
skill in the art it would be obvious that one of these substituents could be a methyl group. The addition of a single methyl group is not inventive and thus is obvious to one of ordinary skill in the art. Furthermore, Weber et al. do not specifically teach that three of the  $R_1$  substituents are gadolinium or other paramagnetic ions. To a person of ordinary skill in the art it is readily obvious that Weber et al. do teach the labeling of the disclosed compound with gadolinium and that by means of routine experimentation it would readily be obvious that three of substituents could be gadolinium.

Claims 4-5, 9, 19-21, and 23-26 are rejected under 35 U.S.C. 103 as being unpatentable over Weber et al., as mentioned above, in view of Berg et al. and Warshawsky et al.

Weber et al. do not teach the specific substituents for  $Z_1$  and  $Z_2$  disclosed by applicants. Berg et al. provide chelating agents particularly useful for the preparations of diagnostic and therapeutic agents for MRI, scintigraphy, ultrasound, radiotherapy, and heavy metal detoxification. Warshawsky et al. provide bifunctional chelating agents which are analogues of EDTA that have various medical uses. The compounds disclosed by Berg et al. are triamines, in which substituents can be found extending from applicants refer to as the  $Z_1$  and  $Z_2$  substituents. Berg et al. teach that "hydroxyalkyl group or an optionally hydroxylated alkoxy or alkoxyalkyl group" can extend from these regions. Warshawsky et al. also teach that substituents can extend from applicants  $Z_1$  and  $Z_2$  substituents. Refer to column 2, lines 25-45. Thus, to a person of ordinary skill in the art it is readily obvious that various substituents can readily be extended from the  $Z_1$  and  $Z_2$  substituents disclosed by applicants. Berg et al. teach the use of hydroxyalkyl groups and Warshawsky et al. teach various aryl compounds combining these teachings with the compound disclosed by Weber et al. would be obvious due to the existing similarities in structure and use of all the compounds.

Applicant's arguments with respect to the claims have been considered but are deemed to be moot in view of the new grounds of rejection.

An inquiry concerning this communication should be directed to Matthew Zmurko at telephone number (703) 308-3957.

A handwritten signature in black ink, reading "Robert L. Stoll". The signature is fluid and cursive, with the first name "Robert" and last name "Stoll" clearly legible.

ROBERT L. STOLL  
SUPERVISORY PRIMARY EXAMINER  
ART UNIT 223